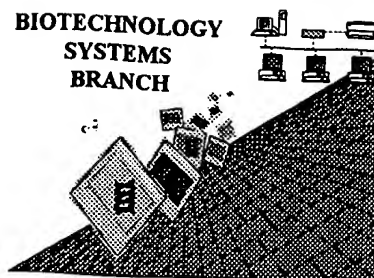


LN

RAW SEQUENCE LISTING ERROR REPORT



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/822,080
Source: O/P/E
Date Processed by STIC: 4/19/2001

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

- PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:**
- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,**
 - 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY**

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.
PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)
PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

**TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER
VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND
TRADEMARK OFFICE WEBSITE. SEE BELOW:**

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25. Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:
<http://www.uspto.gov/web/offices/pac/checker>

OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/822,080

DATE: 04/19/2001

TIME: 12:30:11

Input Set : A:\C2420011.app

Output Set: N:\CRF3\04192001\I822080.raw

pp 4-5
Does Not Comply
Corrected Diskette Needed

3 <110> APPLICANT: Stewart Jr., C. Neal
4 Broadway, Roxanne M.
6 <120> TITLE OF INVENTION: CABBAGE PROTEINASE INHIBITOR GENE CONFERS RESISTANCE
7 AGAINST PLANT PESTS
9 <130> FILE REFERENCE: 19603/2420
11 <140> CURRENT APPLICATION NUMBER: US/09/822,080
12 <141> CURRENT FILING DATE: 2001-03-30
14 <160> NUMBER OF SEQ ID NOS: 12
16 <170> SOFTWARE: PatentIn Ver. 2.1
18 <210> SEQ ID NO: 1
19 <211> LENGTH: 809
20 <212> TYPE: DNA
21 <213> ORGANISM: Brassica oleracea
23 <220> FEATURE:
24 <221> NAME/KEY: source
25 <222> LOCATION: (1)..(809)
26 <223> OTHER INFORMATION: Serine proteinase inhibitor
28 <400> SEQUENCE: 1
29 gatgaatcct atgttttact tccttcttgc ctttaccact gttttggccg cgaccgcaaa 60
30 cgctggacca gttctcgaca ctgatggtga tatcatattc gacggcagtt actacgttct 120
31 cccctcctc tggggcccta cagggtggcg cctaactctc gtctcccgtc gtggcaacca 180
32 gtgtccctc tttatcggac aggagcgttc agagggtcaac aggggcattc ccgtgaaatt 240
33 ctcaaaactgg aggtccagag ttgggttcgt ccccgaaagaa gagaacctca acatcaagat 300
34 ggatgtcgaa cctacgatct gcgctcagtc agcttattgg tgggtcactc cagcccccag 360
35 tccctggagg tcgttggtta tagcggctgg tcctaagcca gaagctggag gagaagattc 420
36 gtcgaggagt ttcttccaga tcaagaaaac tgaagccaaa cttaacgott acaagtttgt 480
37 attctgtagt gagggtaacg attgcatcga tgcggtgtaa aacgaggaag gtggcggttcg 540
38 ggggttggtt ttaggctcta cgccaccatt cgctacccca ttcgagggtg tgttcgtgaa 600
39 agctactggg acagacactt catccaagac tatgtctatt atctgagaga aattaaagac 660
40 cacttaataa agaggataag tggtataact tacctctaata aataaaactc tatctatgta 720
41 tgatgttttc ttgttccatc gatcatcctc atgtatggaa taaaacatct ttcctttgtt 780
42 tctaaaaaaa aaaaaaaaaa aaaaaaaaaa 809
45 <210> SEQ ID NO: 2
46 <211> LENGTH: 214
47 <212> TYPE: PRT
48 <213> ORGANISM: Brassica oleracea
50 <220> FEATURE:
51 <221> NAME/KEY: PEPTIDE
52 <222> LOCATION: (1)..(214)
53 <223> OTHER INFORMATION: Serine proteinase inhibitor
55 <400> SEQUENCE: 2
56 Met Asn Pro Met Phe Tyr Phe Leu Leu Ala Phe Thr Thr Val Leu Ala
57 1 5 10 15
59 Ala Thr Ala Asn Ala Gly Pro Val Leu Asp Thr Asp Gly Asp Ile Ile
60 20 25 30
62 Phe Asp Gly Ser Tyr Tyr Val Leu Pro Leu Ile Trp Gly Pro Thr Gly
63 35 40 45

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/822,080

DATE: 04/19/2001

TIME: 12:30:11

Input Set : A:\C2420011.app

Output Set: N:\CRF3\04192001\I822080.raw

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65 Gly Gly Leu Thr Leu Val Ser Arg Arg Gly Asn Gln Cys Pro Leu Phe
66      50                      55                      60
68 Ile Gly Gln Glu Arg Ser Glu Val Asn Arg Gly Ile Pro Val Lys Phe
69 65                      70                      75                      80
71 Ser Asn Trp Arg Ser Arg Val Gly Phe Val Pro Glu Glu Glu Asn Leu
72                      85                      90                      95
74 Asn Ile Lys Met Asp Val Glu Pro Thr Ile Cys Ala Gln Ser Ala Tyr
75      100                      105                      110
77 Trp Trp Val Thr Pro Ala Pro Ser Pro Trp Arg Ser Leu Phe Ile Ala
78      115                      120                      125
80 Ala Gly Pro Lys Pro Glu Ala Gly Gly Glu Asp Ser Ser Arg Ser Phe
81      130                      135                      140
83 Phe Gln Ile Lys Lys Thr Glu Ala Lys Leu Asn Ala Tyr Lys Phe Val
84 145                      150                      155                      160
86 Phe Cys Ser Glu Gly Asn Asp Cys Ile Asp Val Gly Lys Asn Glu Glu
87                      165                      170                      175
89 Gly Gly Val Arg Gly Leu Val Leu Gly Ser Thr Pro Pro Phe Ala Thr
90                      180                      185                      190
92 Pro Phe Glu Val Val Phe Val Lys Ala Thr Gly Thr Asp Thr Ser Ser
93      195                      200                      205
95 Lys Thr Met Ser Ile Ile
96      210
99 <210> SEQ ID NO: 3
100 <211> LENGTH: 216
101 <212> TYPE: PRT
102 <213> ORGANISM: G. max (soybean)
104 <220> FEATURE:
105 <221> NAME/KEY: PEPTIDE
106 <222> LOCATION: (1)..(216)
107 <223> OTHER INFORMATION: Kunitz-type trypsin inhibitor 3
109 <400> SEQUENCE: 3
110 Met Lys Ser Thr Ile Phe Phe Leu Phe Leu Phe Cys Ala Phe Thr Thr
111 1      5                      10                      15
113 Ser Tyr Leu Pro Scr Ala Ile Ala Asp Phe Val Leu Asp Asn Glu Gly
114      20                      25                      30
116 Asn Pro Leu Glu Asn Gly Gly Thr Tyr Tyr Ile Leu Ser Asp Ile Thr
117      35                      40                      45
119 Ala Phe Gly Gly Ile Arg Ala Ala Pro Thr Gly Asn Glu Arg Cys Pro
120      50                      55                      60
122 Leu Thr Val Val Gln Ser Arg Asn Glu Leu Asp Lys Gly Ile Gly Thr
123 65                      70                      75                      80
125 Ile Ile Ser Ser Pro Tyr Arg Ile Arg Phe Ile Ala Glu Gly His Pro
126      85                      90                      95
128 Leu Ser Leu Lys Phe Asp Ser Phe Ala Val Ile Met Leu Cys Val Gly
129      100                      105                      110
131 Ile Pro Thr Glu Trp Ser Val Val Glu Asp Leu Pro Glu Gly Pro Ala
132      115                      120                      125
134 Val Lys Ile Gly Glu Asn Lys Asp Ala Met Asp Gly Trp Phe Arg Leu
135      130                      135                      140

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/822,080

DATE: 04/19/2001

TIME: 12:30:11

Input Set : A:\C2420011.app

Output Set: N:\CRF3\04192001\I822080.raw

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137 Glu Arg Val Ser Asp Asp Glu Phe Asn Asn Tyr Lys Leu Val Phe Cys
138 145                      150                      155                      160
140 Pro Gln Gln Ala Glu Asp Asp Lys Cys Gly Asp Ile Gly Ile Ser Ile
141                      165                      170                      175
143 Asp His Asp Asp Gly Thr Arg Arg Leu Val Val Ser Lys Asn Lys Pro
144                      180                      185                      190
146 Leu Val Val Gln Phe Gln Lys Leu Asp Lys Glu Ser Leu Ala Lys Lys
147                      195                      200                      205
149 Asn His Gly Leu Ser Arg Ser Glu
150 210                      215
153 <210> SEQ ID NO: 4
154 <211> LENGTH: 218
155 <212> TYPE: PRT
156 <213> ORGANISM: Brassica napus
158 <220> FEATURE:
159 <221> NAME/KEY: PEPTIDE
160 <222> LOCATION: (1)..(218)
161 <223> OTHER INFORMATION: BnD22 drought-induced proteinase inhibitor
163 <400> SEQUENCE: 4
164 Met Lys Thr Phe Phe Leu Val Thr Leu Leu Leu Ala Ala Ala Val Cys
165 1 5 10 15
167 Thr His Gly Arg Glu Gln Val Lys Asp Ser Asn Gly Asn Pro Val Lys
168 20 25 30
170 Arg Gly Ala Lys Tyr Phe Ile Gln Pro Ala Lys Ser Asn Ala Gly Gly
171 35 40 45
173 Leu Val Pro Ala Ala Ile Asn Leu Leu Pro Phe Cys Pro Leu Gly Ile
174 50 55 60
176 Thr Gln Thr Leu Leu Pro Tyr Gln Pro Gly Leu Pro Val Ser Phe Gly
177 65 70 75 80
179 Tyr Glu Pro Val Ile Val Gly Thr Asp Tyr Ile Tyr Thr Ser Thr Thr
180 85 90 95
182 Ile Asn Ile Glu Phe Glu Ser Asp Ile Trp Pro Val Cys Asn Glu Leu
183 100 105 110
185 Ser Lys Leu Trp Ala Val Asp Val Ser Ser Ser Ala Ala Lys Glu Pro
186 115 120 125
188 Ala Ile Ile Ile Gly Gly Glu Ser Thr Ala Pro Asn Ser Leu Phe Lys
189 130 135 140
191 Ile Glu Glu Ala Thr Glu Ala Asn Thr Tyr Lys Leu Thr Thr Ser Tyr
192 145 150 155 160
194 Gly Thr Val Gly Thr Ile Pro Gly Pro Trp Leu Ser Ala Pro Gln Leu
195 165 170 175
197 Ile Val Thr Asn Asp Glu Ser Lys Thr Leu Phe Val Lys Phe Val Lys
198 180 185 190
200 Val Asp Asp Ala Ala Thr Lys Ala Thr Thr Ser Thr Ser Arg Val Glu
201 195 200 205
203 Lys Leu Gly Leu Lys Met Phe Pro Phe Tyr
204 210 215
207 <210> SEQ ID NO: 5
208 <211> LENGTH: 17

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/822,080

DATE: 04/19/2001

TIME: 12:30:11

Input Set : A:\C2420011.app

Output Set: N:\CRF3\04192001\I822080.raw

209 <212> TYPE: PRT
 210 <213> ORGANISM: Brassica oleracea
 212 <220> FEATURE:
 213 <221> NAME/KEY: PEPTIDE
 214 <222> LOCATION: (1)..(17)
 215 <223> OTHER INFORMATION: BoPI peptide
 217 <400> SEQUENCE: 5
 218 Val Leu Asp Thr Asp Gly Asp Ile Ile Phe Asp Gly Ser Tyr Tyr Val
 219 1 5 10 15
 221 Leu

225 <210> SEQ ID NO: 6
 226 <211> LENGTH: 37
 227 <212> TYPE: PRT
 228 <213> ORGANISM: Artificial Sequence
 230 <220> FEATURE:
 231 <223> OTHER INFORMATION: Description of Artificial Sequence: Kunitz
 232 inhibitor family amino-terminal conserved region
 234 <220> FEATURE:
 235 <221> NAME/KEY: PEPTIDE
 236 <222> LOCATION: (1)..(37)
 237 <223> OTHER INFORMATION: Xaa at any position is any amino acid
 239 <400> SEQUENCE: 6

W--> 240 Leu Ile Val Asp Xaa Asp Xaa Glu Asp Asn Thr Tyr Asp Gly Arg Lys
 241 1 5 10 15
 W--> 243 His Asp Glu Asn Gln Xaa Leu Ile Val Met Xaa Xaa Xaa Xaa Xaa Tyr
 244 20 25 30
 W--> 246 Xaa Leu Ile Val Met
 247 35

250 <210> SEQ ID NO: 7
 251 <211> LENGTH: 21
 252 <212> TYPE: DNA
 253 <213> ORGANISM: Artificial Sequence
 255 <220> FEATURE:
 256 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
 257 peptides

259 <400> SEQUENCE: 7 *This is a nucleotide sequence*
 260 ggcagttact acgttctccc c 21

263 <210> SEQ ID NO: 8
 264 <211> LENGTH: 18
 265 <212> TYPE: DNA
 266 <213> ORGANISM: Artificial Sequence
 268 <220> FEATURE:
 269 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
 270 peptides

272 <400> SEQUENCE: 8 *same env*
 273 cgataggggt agcgaatg 18
 276 <210> SEQ ID NO: 9
 277 <211> LENGTH: 20
 278 <212> TYPE: DNA

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/822,080

DATE: 04/19/2001
TIME: 12:30:11

Input Set : A:\C2420011.app

Output Set: N:\CRF3\04192001\I822080.raw

279 <213> ORGANISM: Artificial Sequence
281 <220> FEATURE:
282 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
283 peptides
285 <400> SEQUENCE: 9
286 acgaccaatt tacagcccag
289 <210> SEQ ID NO: 10 20
290 <211> LENGTH: 23
291 <212> TYPE: DNA
292 <213> ORGANISM: Artificial Sequence
294 <220> FEATURE:
295 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
296 peptides
298 <400> SEQUENCE: 10
299 gttgtacaaa cgcttccctc agc
302 <210> SEQ ID NO: 11 23
303 <211> LENGTH: 20
304 <212> TYPE: DNA
305 <213> ORGANISM: Artificial Sequence
307 <220> FEATURE:
308 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
309 peptides
311 <400> SEQUENCE: 11
312 atttggggaa tctttggtcc
315 <210> SEQ ID NO: 12 20
316 <211> LENGTH: 20
317 <212> TYPE: DNA
318 <213> ORGANISM: Artificial Sequence
320 <220> FEATURE:
321 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
322 peptides
324 <400> SEQUENCE: 12
325 acagtacgga ttgggtagcg 20

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/822,080

DATE: 04/19/2001
TIME: 12:30:12

Input Set : A:\C2420011.app

Output Set: N:\CRF3\04192001\I822080.raw

L:11 M:270 C: Current Application Number differs, Replaced Application Number
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:240 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:246 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6